



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application
Naoto Yamano et al.

Examiner: Unassigned

Group Art Unit: 2856

Serial Number: 10/644,821

Attorney Docket: YAMA3008/JEK

Filed: August 21, 2003

For: **SAMPLING TUBE-TYPE SMOKE DETECTOR**

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to Rule 37 C.F.R. §1.51(b), §1.56, §1.97, and §1.98, this Information Disclosure Statement is submitted in the above-identified patent application. A listing of documents to be published on the face of any patent granted from this application is submitted herewith on Form PTO-1449. Any other documents or information submitted for consideration by the Examiner are listed in this paper. A copy of each U.S. and foreign patent, or each publication or portion thereof listed or herein identified is submitted herewith, except that (1) a copy of any U.S. patent application identified herein or any patent, publication or other information listed herein cited or submitted in a prior application relied upon for an earlier filing date under 35 U.S.C. §120 and identified below, is not submitted herewith, and (2) a copy of any U.S. patent or published patent application identified herein is not submitted herewith, if this application was filed or entered the U.S. national stage on or after June 30, 2003 (or if applicable, this international application entered the U.S. national stage on or after June 30, 2003).

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**ADDITIONAL DOCUMENTS OR INFORMATION NOT LISTED ON
ACCOMPANYING FORM PTO-1449 SUBMITTED FOR CONSIDERATION**

Great Britain Combined Search and Examination Report dated January 29, 2004
in counterpart British application.

**CONCISE STATEMENT OF RELEVANCY
(NON-ENGLISH LANGUAGE DOCUMENTS ONLY)**

Japanese laid-open application No. 63-157035 discloses a sensor having a height detection sensitivity to suspended particles and detects the occurrence of an initial fire as distinguished from gusts by generating a first warning when the particle concentration of large-diameter suspended particles reaches a first particle concentration threshold value and a second warning when the particle density reaches a second particle concentration threshold value within specific times. The air in a clean room enters a detection sensor 1 from its entrance 1a through the operation of a suction pump 2 and is discharged from an exit 1b. Suspended particles 3 scatter light from lamp 4 and a photo detecting element 5 converts the scattered light into an electric signal. A comparator 9 compares the signal after amplification in amplifier 7 with a particle diameter threshold value set by setter 8 and outputs a pulse when the output of the amplifier 7 is larger than the threshold value to detect large diameter suspended particles. A controller 2 compares the particle concentration of the large diameter suspended particles output from pulse counter 10 with the first and second particle concentration threshold values set by value setter 13 to generate a first warning by warning device 15 when the particle concentration reaches the first threshold value or a second warning when the concentration value reaches a second threshold value by the number of specified times set by a frequency setter 14.

The remaining documents listed on the accompanying PTO-1449 form are in the English language and the relevancy thereof is self-evident.

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STATEMENT REGARDING TRANSLATIONS

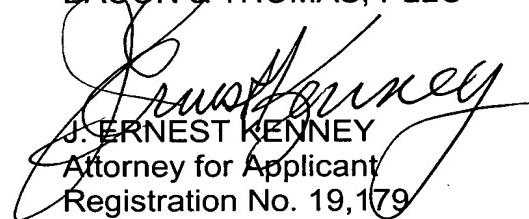
A translation of Japanese laid-open application No. 63-157035 is not available to Applicants' attorney apart from the statement of relevancy provided above.

STATEMENT OF TIMELINESS

This Information Disclosure Statement is submitted prior to the mailing date of the first Office Action on the merits received by Applicant in the above-identified application.

The Examiner is requested to acknowledge consideration of the information provided in this paper in accordance with prescribed procedures.

Respectfully submitted,
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Date: April 9, 2004
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B/O Form PTO-1449	Atty. Docket Number YAMA3008/JEK	Serial Number 10/644,821
U.S. Department of Commerce Patent and Trademark Office		
Information Disclosure Statement by Applicant		
Applicant NAOTO YAMANO et al.		
Filing Date August 21, 2003	Group 2856	

U.S. Patent Documents

Examiner Initial		Document Number	Date	Patentee/Applicant	Class	Subclass	Filing Date if Appropriate

Foreign Patent Documents

Examiner Initial		Document Number	Publication Date	Country/Agency	Class	Subclass	Translation	
							Yes	No
		63-157035	Jun. 1988	Japan				X
		1 321 016	Jun. 1973	Great Britain				
		1 423 531	Feb. 1976	Great Britain				

Other Documents (Including Author, Title, Date, Pertinent Pages, Place of Publication, Etc.)

Examiner	Date Considered

<i>EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</i>
